

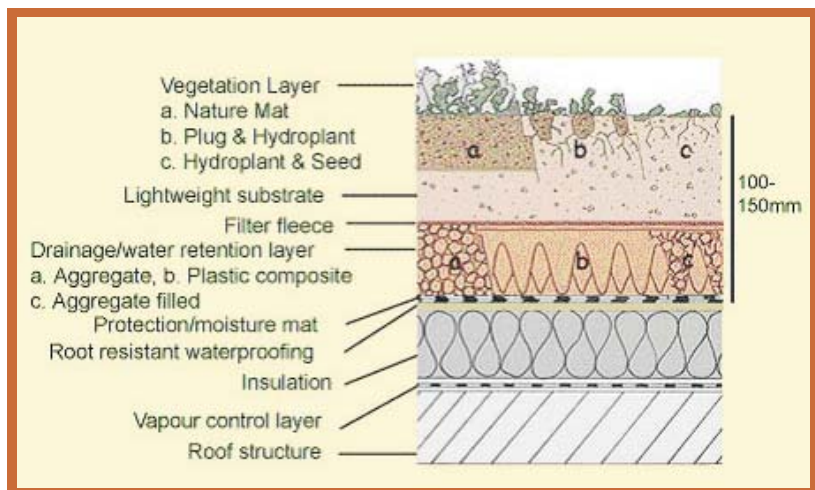


CITY OF COSTA MESA

Green Roofs

What Is A Green Roof?

Green roofs are roof covers that are partially or completely covered with vegetation and lightweight soil over a waterproofing membrane. The number of layers and the layer placement vary from system to system and green roof type, but at the very least all green roofs include a single to multiple waterproofing layer, drainage, growing media and plants, covering the entire roof deck surface.



Economic Benefits

- Protects roof membrane resulting in a longer material lifespan (up to twice as long as conventional roofs)
- Decreases maintenance costs while saving in replacement costs
- Creates savings on energy heating and cooling costs



Environmental Benefits

- Conserves energy by moderating temperature on roof and surrounding areas
- Dramatically reduces storm runoff volume and peak flow rate
- Restores the ecological and aesthetic value of urban open space
- Protects conventional roofing systems, typically doubling the service life of the underlying waterproofing membrane
- Increases usable space for occupants
- Reduces urban heat island effect
- Increases air quality by converting carbon dioxide to oxygen



Cost Of A Green Roof

The cost of a green roof varies considerably depending on the type and factors such as the depth of growing medium, selected plants, size of installation, and use of irrigation. Green roofs range between \$25 and \$40 per square foot. Like any roof, the waterproofing membrane is the single highest cost item of a new roof. While green roofs typically require a greater initial investment, it is important to keep in mind that they can extend the life of the roof membrane and reduce the heating and cooling costs of the building.

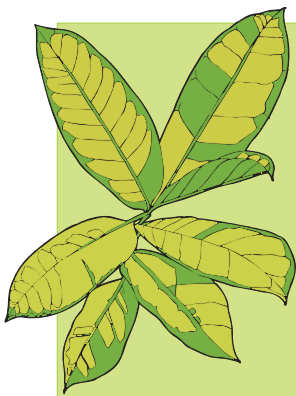


Maintenance

Once a properly installed green roof is well established, its maintenance requirements are usually minimal. However, some green roofing systems may have increased weight and more intensive plantings compared to other green roofs, and these may lead to higher maintenance requirements.

These maintenance requirements include:

- Inspection of the roof membrane (the most crucial element of a green roof)
- Watering and fertilizing
- Trimming and weeding
- Inspection for drainage
- Inspection for leaks



It also important to note that only lightweight engineered soil can be used on green roofs. Regular garden soil is heavy, can contain pathogens, undesirable insects, and weeds. Green roof soils need to be lightweight to conform to roof loading weight restrictions, drain properly and yet retain a certain amount of rain water.



*For more information on green buildings,
please refer to the City's reference guide,
“[The GreenBuilding Binder](#)” at the public counter.*